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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/365,678	08/02/1999	ESHWAR PITTAMPALLI	CASE-11	2090

7590 09/16/2009

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EXAMINER	
PHUONG, DAI	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
09/16/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/365,678	PITTAMPALLI, ESHWAR	
	Examiner	Art Unit	
	DAI A. PHUONG	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 August 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Pre-Brief Conference Request filed on 04/30/2009, PROSECUTION IS HEREBY REOPENED. The new ground(s) of rejection set forth below.

Information Disclosure Statement

2. The references listed in the Information Disclosure Statement filed on 07/01/2009 has been considered by the examiner.

Drawings

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the Figure. 1 to Figure. 4 are handwritten drawing. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

4. Claims 1, 8, 11, 17 and 18 are objected to because of the following informalities:

Regarding claim 1, line 7 recites "a communication link". It should be corrected as - - the communication link - -.

Regarding claim 8, line 1 recites "a frequency". It should be corrected as - - the frequency - -.

Regarding claim 11, line 13 recites "&". It should be corrected as - - and - -.

Regarding claim 17, line 2 recites "a communication link". It should be corrected as - - the communication link - -.

Regarding claim 18, line 3 recites "a master device" and line 4 recites "the master device". It should be corrected as - - a first master device - - and - - the first master device - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

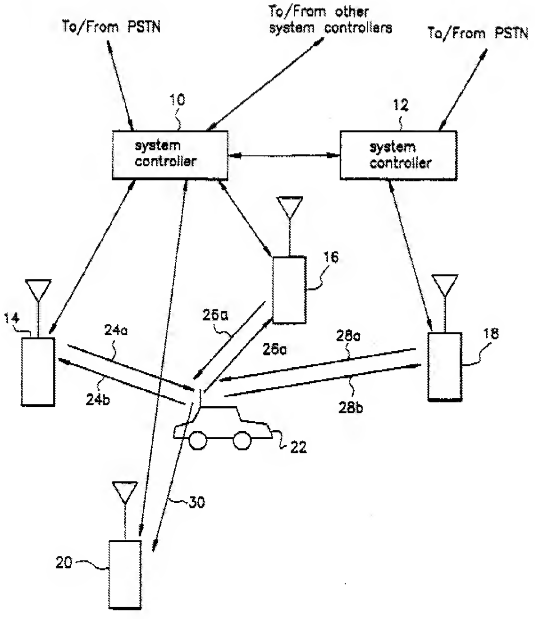
6. Claims 1-6 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (U.S. 5649000).

Regarding claim 1, Lee et al. disclose a method of maintaining a communication link (col. 2, line 37 to col. 3, line 44) comprising the steps of:

initiating, via a master device 14 (fig. 1, cell-site 14), unregistration (a handoff) at a controller 10 (fig. 1, system controller 10), the unregistration being of a dependent (mobile unit) in communication with the master device 14 (fig. 1, cell-site 14) using a communication channel on a frequency band fband(1) (col. 8, lines 1-20. Lee et al. disclose "Upon this intensity information, the system controller 10 determines that which cell-site is suitable for hand off, and sends to the mobile unit 22 via the first cell-site 14 a hand-off grant containing information about the selected cell-site, for example the cell-site 16". It should be noted that the system controller 10 sends the hand-off grant containing information about the selected cell-site to the mobile unit 22 via a channel or a frequency band which is also called as fband(1)).

transmitting a message (a handoff grant message) to the dependent (mobile unit 22) indicating to the dependent (mobile unit 22) to register with a communications network using a frequency band fband(2) (col. 8, lines 1-26. Lee et al. disclose "According to the content of the hand-off grant message, the mobile unit 22 **changes its communication channel** to the second cell-site 16" and "Upon completing the hand-off, the mobile unit 22 sends a hand off end message to the system controller 10 via the second cell-site 16".)

FIG. 1


To/From PSTN
To/From other system controllers
To/From PSTN
10
12
system controller
system controller
16
14
18
24a
24b
26a
26b
28a
28b
22
30
20

Regarding claim 2, the Lee et al. disclose all the limitation in claim 1. Further, Lee et al. disclose the method comprising the additional steps of: receiving a registration message from the master device on the frequency band fband(1) indicating the dependent (col. 7,lines 44 to col. 8, line 26. The mobile unit should register and establish a connection or channel with the cell-site 14 before sending a handoff request message to the system controller 10); and registering the dependent with the master device before the step of unregistering (col. 7,lines 44 to col. 8, line 26. The mobile unit should register and establish a connection or channel with the cell-site 14 before sending a handoff request message to the system controller 10).

Regarding claim 3, Lee et al. disclose all the limitation in claim 1. Further, Lee et al. disclose the method comprising the additional step of: transmitting another message indicating to the communications network to register the dependent with the communications network via the controller (col. 7, line 44 to col. 8, line 26).

Regarding claim 4, Lee et al. disclose all the limitation in claim 1. Further, Lee et al. disclose the method wherein the dependent is unregistered when an unregistration message is received (col. 7,lines 44 to col. 8, line 26).

Regarding claim 5, Lee et al. disclose all the limitation in claim 1. Further, Lee et al. disclose the method wherein the dependent is unregistered when a strength of a signal transmitted between the dependent and the master device on the frequency band fband(1) falls below a threshold value (col. 7, lines 45-53).

Regarding claim 6, Lee et al. disclose all the limitation in claim 5. Further, Lee et al. disclose the method comprising the additional step of: monitoring a communication channel associated with the master device on the frequency band fband(1) (col. 7, line 26-43)).

Regarding claim 8, Lee et al. disclose all the limitation in claim 1. Further, Lee et al. disclose the method wherein the message is transmitted using a frequency band fband(2) (col. 8, lines 1-26).

Regarding claim 9, Lee et al. disclose all the limitation in claim 1. Further, Lee et al. disclose the method comprising the additional step of: transmitting a handoff message to the communications network indicating to the communications network to communicate directly with the dependent (col. 7, lines 54-67).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (U.S. 5649000) in view of Yamauchi et al. (U.S. 6295310).

Regarding claim 7, Lee et al. disclose all the limitation in claim 6. However, Lee et al. do not disclose wherein the communication channel is defined by a frequency hopping sequence (col. 11, line 66 to col. 12, line 5).

In the same field of endeavor, Yamauchi et al. disclose the communication channel is defined by a frequency hopping sequence (col. 11, line 40 to col. 12, line 52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Lee et al. by specifically including the communication channel is defined by a frequency hopping sequence, as taught by Yamauchi et al., the motivation being in order to maintenance communication between the mobile and base station or continue high-reliability communications with the base station.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (U.S. 5649000) in view of Huang et al. (U.S. 5448569).

Regarding claim 10, Lee et al. disclose all the limitation in claim 1. However, Lee et al. do not disclose the method wherein the handoff message is transmitted on the frequency band fband(2).

In the same field of endeavor, Huang et al. disclose the method wherein the handoff message is transmitted on the frequency band fband(2) (col. 10, lines 26-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Lee et al. by specifically including the method wherein the handoff message is transmitted on the frequency band fband(2), as taught by Huang et al., the motivation being in order to prevent loss communications with a network while sending a handoff request message.

10. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamauchi et al. (U.S. 6295310) in view of Lee et al. (U.S. 5649000).

Regarding claim 11, Yamauchi et al. disclose a method for maintaining a communication link (col. 4, lines 1-17) comprising the steps of:

searching at a dependent (mobile station) for one or more frequency sequences from a set of frequency sequences (col. 19, lines 9-60);

registering the dependent (mobile station) with a first master device (base station) when a first frequency hopping sequence is detected, the first frequency hopping sequence being associated with the first master device (col. 11, line 19 to col. 12, line 52);

continuously monitoring for frequency hopping sequences in the set of frequency hopping sequences (col. 11, line 19 to col. 12, line 52).

However, Yamauchi et al. do not disclose registering the dependent with one of (1) the controller and (2) a second master device & the controller if the dependent detects a signal transmitted on a second frequency sequence associated with the second master device having a higher signal strength than a signal transmitted on the first frequency hopping sequence.

In an analogous art, Lee et al. disclose registering the dependent (mobile unit 22) with one of (1) the controller (system controller 10) and (2) a second master device (cell-site 16) & the controller (system controller 10) if the dependent (mobile unit 22) detects a signal transmitted on a second frequency associated with the second master device having a higher signal strength than a signal transmitted on the first frequency (col. 3, lines 4-45 and col. 7, line 45 to col. 8, line 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Yamauchi et al. by specifically including

registering the dependent (mobile unit 22) with one of (1) the controller (system controller 10) and (2) a second master device (cell-site 16) & the controller (system controller 10) if the dependent (mobile unit 22) detects a signal transmitted on a second frequency associated with the second master device having a higher signal strength than a signal transmitted on the first frequency, as taught by Lee et al., the motivation being in order to maintenance services when a mobile station traveling in several service regions.

Regarding claim 12, the combination of Yamauchi et al. and Lee et al. disclose all the limitation in claim 11. Further, Yamauchi et al. disclose the method wherein the step of registering the dependent with the first master device comprises the step of: transmitting a registration message to the first master device using the first frequency hopping sequence (col. 11, line 41 to col. 12, line 52).

Regarding claim 13, the combination of Yamauchi et al. and Lee et al. disclose all the limitation in claim 11. Further, Yamauchi et al. disclose the method wherein the step of registering the dependent with the master device comprises the step of: transmitting a registration message to the second master device using the second frequency hopping sequence (col. 11, line 41 to col. 12, line 52). However, Yamauchi et al. do not disclose the second mater device.

In an analogous art, Lee et al. disclose registering the dependent (mobile unit 22) with the second master device (cell-site 16) (col. 3, lines 4-45 and col. 7, line 45 to col. 8, line 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Yamauchi et al. by specifically including registering the dependent (mobile unit 22) with the second master device, as taught by Lee et al.,

the motivation being in order to maintenance services when a mobile station traveling in several service regions.

Regarding claim 14, the combination of Yamauchi et al. and Lee et al. disclose all the limitation in claim 11. Further, Yamauchi et al. disclose the method wherein the set of frequency hopping sequences use a first frequency band fband(1) (col. 11, line 53 to col. 12, line 52).

Regarding claim 15, the combination of Yamauchi et al. and Lee et al. disclose all the limitation in claim 14. Further, Yamauchi et al. disclose the method comprising the additional step of: searching for a signal transmitted using a second frequency band fband(2) if no frequency hopping sequence in the set are detected (col. 19, lines 9-60).

Regarding claim 16, the combination of Yamauchi et al. and Lee et al. disclose all the limitation in claim 15. Further, Lee et al. disclose the method comprising the additional step of: registering with a communication network when the second frequency band fband(2) is detected, the communications network being associated with the second frequency band fband(2) (col. 3, lines 4-45 and col. 7, line 45 to col. 8, line 26).

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamauchi et al. (U.S. 6295310) in view of Lee et al. (U.S. 5649000) and further in view of Huang et al. (U.S. 5448569).

Regarding claim 17, the combination of Yamauchi et al. and Lee et al. disclose all the limitation in claim 11. Further, Lee et al. discloses the method comprising the additional steps of: receiving a registration message indicating the dependent to register with a communications network (col. 3, lines 4-45 and col. 7, line 45 to col. 8, line 26).

However, the combination of Yamauchi et al. and Lee et al. do not disclose registering with the communication network using a second frequency band fband(2).

In the same field of endeavor, Huang et al. disclose registering with the communication network using a second frequency band fband(2) (col. 10, lines 26-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Yamauchi et al. by specifically including registering with the communication network using a second frequency band fband(2), as taught by Huang et al., the motivation being in order to prevent loss communications with a network while sending a handoff request message.

12. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamauchi et al. (U.S. 6295310) in view of Huang et al. (U.S. 5448569).

Regarding claim 18, Yamauchi et al. disclose a method for maintaining a communication link (col. 4, lines 1-17) comprising the steps of:

receiving a first registration message at a master device (base station 11) from a dependent (mobile unit 10) over a first frequency hopping sequence (first frequency) associated with the master device (base station 11) (col. 11, line 19 to col. 12, line 52. The mobile unit should register with the base station in order to communicate with the base station via the first frequency. Then the mobile unit switches the second frequency when the first frequency is degraded);

monitoring a strength at the master device for a signal transmitted by the dependent over the first frequency hopping sequence (col. 11, line 19 to col. 12, line 52);

transmitting an unregistration message over the frequency hopping sequence if the strength of the signal transmitted over the first frequency hopping sequence falls below a threshold value (col. 11, line 19 to col. 12, line 52. The mobile station should inform the base station when the mobile station switches to the second frequency).

However, Yamauchi et al. do not disclose transmitting a second registration message over a second frequency hopping sequence associated with a second master device; transmitting an unregistration message over the second frequency hopping sequence if the strength of the signal transmitted over the first frequency hopping sequence falls below a threshold value.

In an analogous art, Huang et al. disclose transmitting a second registration message over a second frequency associated with a second master device (col. 10, lines 26-35); transmitting an unregistration message over the second frequency if the strength of the signal transmitted over the first frequency hopping sequence falls below a threshold value (col. 10, lines 4-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Yamauchi et al. by specifically including transmitting a second registration message over a second frequency associated with a second master device; transmitting an unregistration message over the second frequency if the strength of the signal transmitted over the first frequency hopping sequence falls below a threshold value, as taught by Huang et al., the motivation being in order to maintenance communication between the mobile and base station.

Regarding claim 19, the combination of Yamauchi et al. and Huang et al. disclose all the limitation in claim 18. Further, Yamauchi et al. disclose the method wherein the first and second frequency hopping sequences are part of a set of frequency hopping sequences on a same frequency band (col. 11, line 19 to col. 12, line 52).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dai A Phuong/
Examiner, Art Unit 2617
Date: 09/01/2009
PS